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50~~CONFIDENTIAL~~20th April, 1959COCOM Document No. 3415.58/5COORDINATING COMMITTEERECORD OF DISCUSSIONONITEM 1558 - VALVES (TUBES) ELECTRONIC5. List Policy
General16th April, 1959

Present: Belgium (Luxembourg), Canada, Denmark, France, Germany, Italy, Japan, Netherlands, Norway, Turkey, United Kingdom, United States.

References: COCOM Document No. 3416.58/4; Electronics and Precision Instruments Working Paper 36.

1. The CHAIRMAN invited the views of Delegations on the point submitted by the German Delegation on the 23rd March (COCOM Document No. 3415.58/4).

2. The NETHERLANDS Delegate made the following statement:

"According to the Netherlands experts, the description of amplifier Klystrons was meant to differentiate these from the oscillator Klystrons. Amplifier Klystrons are usually developed for frequencies which are above 300 MHz. However, this does not exclude the existence of some types designed for lower frequencies. As an example, type X 590 can be mentioned, made by Eimac in the USA. This amplifier Klystron is apparently designed for a frequency band of 225 to 400 MHz. Although Klystrons have a much lower efficiency than triodes or tetrodes (15% at the utmost) and as these can be made for very high capacities, it might in some cases be possible that the use of Klystrons (e.g. for a jamming station with pulse modulation) has some advantages. The Netherlands experts agree with the German Delegate that separate mentioning of amplifier Klystrons is of no practical importance. On the other hand they fail to see what problems might arise by doing this. Definitions of other items occasionally overlap without causing any complications. In conclusion the Netherlands experts are of the opinion that it is not necessary to modify the definition, although they would not a priori oppose a redefinition."

3. The UNITED STATES Delegate submitted three examples of commercially available amplifier Klystron tubes having tuneable ranges extending below 300 megacycles:

- (1) Eimac type 3KM50000 PA
- (2) Eimac type X 602
- (3) Eimac type 4KM170,000 LA.

All of these, he stated, would be released from coverage if sub-item (g) of Item 1558 were deleted.

4. The UNITED KINGDOM Delegate stated that, broadly speaking, the experts in the United Kingdom agreed with the German proposal that the situation should be clarified. Sub-item (g) was superfluous because in fact all Klystrons were embargoed by sub-item (b). The situation had arisen because during the List review in July 1958 the French Delegation had put forward (in Working Paper 36) a definition for part (b) based on a frequency cut-off

of 1,000 Mc/s; and at that time sub-item (g) had been inserted for the purpose of controlling Klystrons between 300 and 1,000 Mc/s. For the same reason, sub-item (h) had been introduced to embargo travelling wave tubes. Ultimately, however, at the meeting of the Consultative Group, a cut-off of 300 Mc/s had been agreed and inserted in sub-items (a) and (b). This had made sub-items (g) and (h) unnecessary, because there are no Klystrons or travelling wave tubes used at frequencies below 300 Mc/s. The United Kingdom Delegation were in favour of deleting these sub-items provided there was an understanding that the general terms "Valve" or "Tube" included devices such as Klystrons and travelling wave tubes.

5. The JAPANESE Delegate stated that his Government's position was very similar to that expressed by the United Kingdom Delegate. Japanese experts had held the view that sub-item (g) of Item 1558 covered all amplifier Klystrons without any qualification, while Klystrons except those used for amplifying were considered to be covered by sub-item (b) when designed to be used at frequencies higher than 300 megacycles. As they could, however, subscribe to the German opinion that all Klystrons, including amplifier Klystrons, were used at frequencies of more than 300 megacycles, they believed that the existence of sub-item (g) was meaningless and that, in order to avoid misinterpretation, this sub-item should be deleted.

6. The GERMAN Delegate undertook to refer to his authorities the list of Klystrons just supplied by the United States as being liable to be freed from control if sub-item (g) were deleted from Item 1558; he would seek new instructions in view of this fresh technical information. The Delegate added that comment from other Delegations on the United States Delegate's views would be welcome.

7. No further comment having been made, the CHAIRMAN summed up in the following terms. The United States Delegation believed that sub-item (g) was necessary and should be retained in the definition. The Netherlands Delegate did not consider that it was necessary to have this sub-item, but foresaw no inconvenience and thought that there was no need to make a change. The United Kingdom Delegation would be prepared to drop sub-items (g) and (h) provided it was clear that Klystrons and travelling wave tubes were covered elsewhere in the Item. The Japanese Delegate was of the same view. Since, however, unanimity was necessary in order to change a definition, and since the Committee was not unanimous, the Item would remain unchanged for the time being. The German Delegation, or any other, would of course be at liberty to revert to the matter, if they thought fit, at a subsequent date.